8RS232 Interface Card
for
Loop-AM3440-A/B/C
User's Manual

LOOP TELECOMMUNICATION INTERNATIONAL, INC.
8F, NO. 8, HSIN ANN RD
SCIENCE-BASED INDUSTRIAL PARK
HSINCHU, TAIWAN
Tel: +886-3-578-7696
Fax: +886-3-578-7695

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10 JUNE 2011 Version 5

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1 PRODUCT DESCRIPTION

1.1 Overview

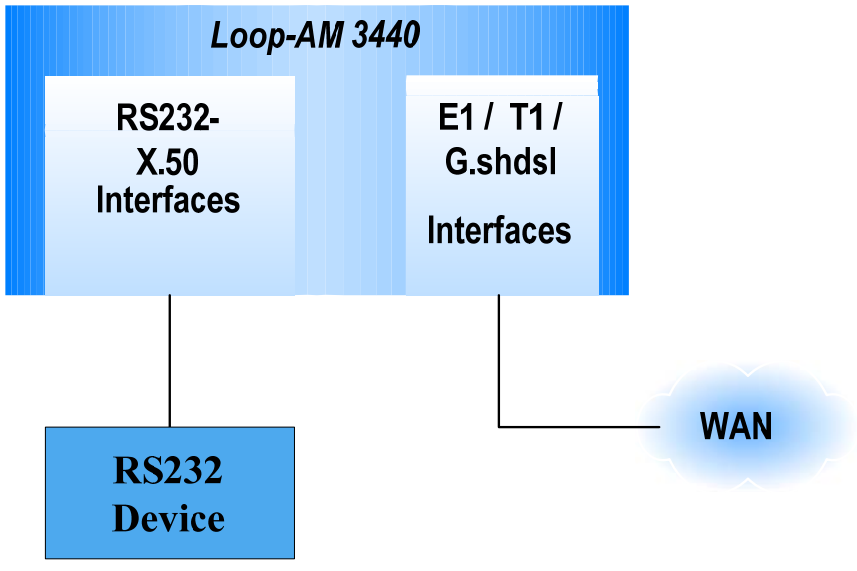
The 8RS232 Interface Card for Loop-AM3440 has 8 interface ports. For the RJ version, 8 RJ48 connectors are available in Asynchronous mode. Because the method used is oversampling at 64 Kbps, the max data rate for each RJ48 is 19.2 Kbps. For the DB version, 2 RJ48 provide 2 ports and 2 DB44 connectors provide 3 ports each. Two cables are included. Each cable converts from DB44 connector to two DB25 and one DB9 connectors.

For Asynchronous signals, the card can be used in either INDEPENDENT mode or MUX mode. In the INDEPENDENT mode, each of the 8 Asynchronous ports up to 38.4 Kb/s rate, is assigned a separate 64 Kb/s channel. In the MUX mode, up to 5 ports, each up to 9.6 Kb/s, can share a single 64 Kb/s channel. The rest 3 ports will be multiplexed to another 64Kb/s channel.

For Synchronous signals, only four of the ports can be used, leaving another 4 ports as Asynchronous. In the INDEPENDENT mode, each of the 4 Synchronous ports can be up to 64 Kb/s. The rest of the 4 Asynchronous ports, each up to 38.4 Kb/s rate, is assigned a separate 64 Kb/s channel per port. In the MUX mode, the 4 Synchronous ports, each up to 9.6 Kb/s, share a single 64 Kb/s channel. The other 3 Asynchronous ports will be multiplexed to another 64Kb/s channel.

The 8RS232 Interface Card uses the multiplexing format defined in ITU-T X.50 Div.2 and in X.54 for rates below 64kbps. For 64kbps transport, standard RS232 format is used. In the INDEPENDENT mode when only one sub-rate signal is transported, the unused bandwidth is filled with "1s".

1.2 Applications



1.3 Specifications

DTE Interface (RS232-X.50 mux.)

Data Port MUX: Up to twelve 8-port RS232 cards
Maximum 5 subrate port / 64Kbps

Data Rate	Asynchronous	Mux mode	0.6K, 1.2K, 2.4K, 4.8K, 9.6K
		Independent mode	0.6K, 1.2K, 2.4K, 4.8K, 9.6K, 19.2K, 38.4K
	Synchronous	Mux mode	0.6K, 1.2K, 2.4K, 4.8K, 9.6K
		Independent mode	0.6K, 1.2K, 2.4K, 4.8K, 9.6K, 19.2K, 38.4K, 48K, 64K

	Port Number							
Card Type	1	2	3	4	5	6	7	8
RJ48	Async Note 1	Async Note 1	Async	Async Note 1	Async Note 1	Async	Async	Async
DB44 + RJ48	Async/ Sync	Async/ Sync	Async	Async/ Sync	Async/ Sync	Async	Async	Async

Connector: DB44 (port1,port2,port3) DB44 (port4,port5,port6) RJ48 (port7) RJ48(port8)
RJ48 (port 1 to Port 8 are 8RJ48)

Alarm: Remote Alarm
RTS Loss

Loopback: To-DTE
To-DS1 (To Line)

Electrical: RS232 Interface, DCE

Note 1: Up to 19.2 Kbps achieved by oversampling at 64 Kbps

2 INSTALLATION

2.1 Mechanical Installation

The 8RS232 interface card can be plugged into any of the available full size slots in the AM3440-A/B/C chassis.

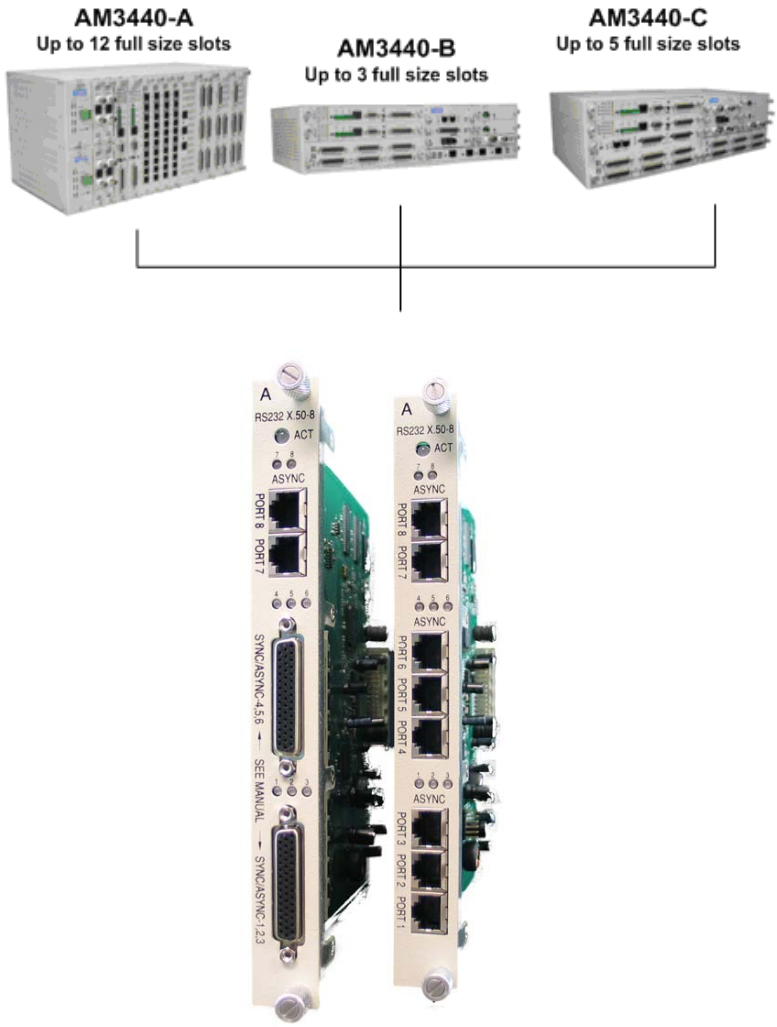


Figure 2-1 8RS232 interface cards panel

2.2 Electrical Installation

2.2.1 Conversion Cable

A three-into-one conversion cable, as depicted below, adapts the DB44 connector to 3 connecters: one DB9 and two DB25s.

Figure 2-2 Three-into-One Conversion Cable

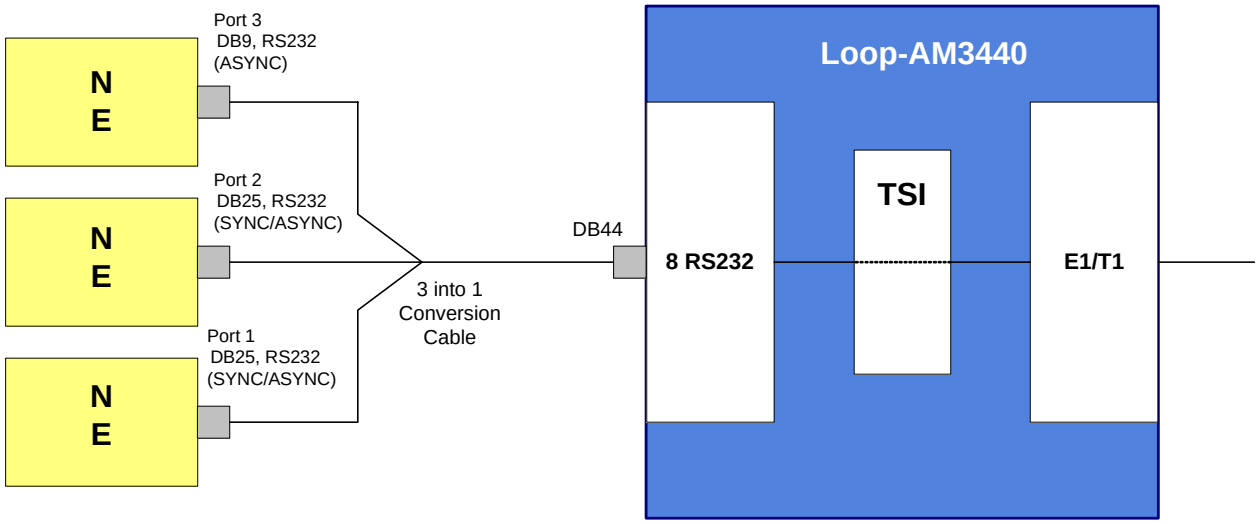


Figure 2-3 Three-into-One Conversion Cable Application

2.3 Configuration Setting

2.2.2 Pin Definition Tables

The DB44 connector provides connection to three RS232 ports. The pin definitions of this connector are listed in Table2-1 bellow.

Table 2-1 The DB44 (Female) pin-out of three ports RS232

DB44 Pin Number	Signal	Source	Port 1, 4 DB25 Pin Number (SYNC/ASYNC)	Port 2, 5 DB25 Pin Number (SYNC/ASYNC)	Port 3, 6 DB9 Pin Number (ASYNC)
1	Signal Ground	Common			
2	Transmit Clock (A)	DCE	15		
3	Signal Ground(A)	Common	7		
4	Local Loopback (A)	DTE	18		
5	Data Terminal Ready(A)	DTE	20		
6	Data Carrier Detect(A)	DCE	8		
7	Signal Ground	Common			
8	Transmit Clock(B)	DCE		15	
9	Signal Ground(B)	Common		7	
10	Clear to Send(B)	DCE		5	
11	Data Set Ready(B)	DCE		6	
12	Test Mode(B)	DCE		25	
13	Signal Ground	Common			
14	Data Carrier Detect(C)	DCE			1
15	Request To Send(C)	DTE			7
16	External Clock(A)	DTE	24		
17	Receive Clock (A)	DCE	17		
18	Receive Data(A)	DCE	3		
19	Data Set Ready (A)	DCE	6		
20	Clear to send (A)	DCE	5		
21	Signal Ground	Common			
22	External Clock(B)	DTE		24	
23	Receive Clock(B)	DCE		17	
24	Receive Data (B)	DCE		3	
25	Request To Send(B)	DTE		4	
26	Data Carrier Detect (B)	DCE		8	
27	Signal Ground	Common			
28	Receive Data (C)	DCE			2
29	Transmit Data (C)	DTE			3
30	Signal Ground (C)	Common			5
31	Cable Shield(A)	Common	1		
32	Transmit Data(A)	DTE	2		
33	Signal Ground	Common			
34	Test Mode(A)	DCE	25		
35	Remote Loopback(A)	DTE	21		
36	Request to Send(A)	DTE	4		
37	Cable Shield(B)	Common		1	
38	Transmit Data (B)	DTE		2	
39	Signal Ground	Common			
40	Data Terminal Ready(B)	DTE		20	
41	Local Loopback (B)	DTE		18	
42	Remote Loopback (B)	DTE		21	
43	Signal Ground	Common			
44	Clear To Send(C)	DCE			8

The three RS232 ports on the other end of the conversion cable have either DB25(female) or DB9(female) connectors. For pin definitions, please refer to the tables below:

Table 2-2 RJ48 Connector Pin Assignment

Pin number	Signal	Source
1	Signal Ground	
2	Request to Send	DTE
3	Received Data	DCE
4	Data Carrier Detect	DCE
5	Transmitted Data	DTE
6	Data Terminal Ready	DTE
7	Signal Ground	
8	Clear to Send	DCE

Table 2-3 DB25 (Female) pin-out of RS232 SYNC/ASYNC port for DB44 conversion cable

DB25 Pin Number	Signal	Source	DB25 Pin Number	Signal	Source
1	Cable Shield	Common	14	-	
2	Transmit Data	DTE	15	Transmit Clock	DCE
3	Receive Data	DCE	16	-	
4	Request To Send	DTE	17	Receive Clock	DCE
5	Clear To Send	DCE	18	Local Loopback	DTE
6	Data Set Ready	DCE	19	-	
7	Signal Ground	Common	20	Data Terminal Ready	DTE
8	Data Carrier Detect	DCE	21	Remote Loopback	DTE
9	-		22	-	
10	-		23	-	
11	-		24	External Clock	DTE
12	-		25	Test Mode	DCE
13	-				

Table 2-4 DB9 (Female) pin-out of RS232 ASYNC port for DB44 conversion cable

DB9 Pin Number	Signal	Source
1	Data Carrier Detect	DCE
2	Receive Data	DCE
3	Transmit Data	DTE
4	-	
5	Signal Ground	Common
6	-	
7	Request To Send	DTE
8	Clear To Send	DCE
9	-	

3 DEFAULT CONFIGURATION AND SETUP OPTIONS

3.1 DTE Configuration

A detailed option list of DTE configuration is in the Table 3-1. The following paragraphs will describe each item.

Table 3-1 Default Software Configuration for 8RJ card

DTE Port Items	Options	Default
	8RJ	8RJ
X50 MUX	NO_MUX, MUX	NO_MUX
SYNC mode	ASYNC-8, ASYNC-9, ASYNC-10, ASYNC-11, ASYNC-12	ASYNC-8
	SYNC (ASYNC with rate up to 19.2 Kbps achieved by oversampling at 64 Kbps)	
Rate	0.6K, 1.2K, 2.4K, 4.8K, 9.6K, 19.2K, 38.4K	9.6K
	64K (ASYNC with rate up to 19.2 Kbps achieved by oversampling at 64 Kbps)	
Phase	fixed	fixed
4.8k sel	first half, last half, odd pair, even pair	fixed
Clock	N/A	N/A
Data	N/A	N/A
RTS	Active, Permanent	Permanent
TTM	N/A	N/A
DCD	Permanent On, Remote X.50 forward, Remote all one forward	Remote all one forward
Interface	8RJ	8RJ

Table 3-2 Default Software Configuration for 2DB+2RJ

DTE Port Items	Options						Default
	2DB+2RJ						2DB+2RJ
X50 MUX	NO_MUX, MUX						NO_ MUX
SYNC mode	2DB				2RJ		ASYNC-8
	SYNC, ASYNC-8, ASYNC-9, ASYNC-10, ASYNC-11, ASYNC-12				ASYNC-8, ASYNC-9, ASYNC-10, ASYNC-11, ASYNC-12		
Rate	NO_MUX	MUX	NO_MUX	MUX	NO_MUX	MUX	9.6K
	Sync:		Async:		Async:		
	0.6K, 1.2K, 4.8K, 9.6K, 19.2K, 38.4K, 48K, 64K	0.6K 1.2K, 4.8K, 9.6K	0.6K, 1.2K, 4.8K, 9.6K, 19.2K 38.4K	0.6K 1.2K, 4.8K, 9.6K	0.6K, 1.2K, 4.8K, 9.6K, 19.2K 38.4K	0.6K 1.2K, 4.8K, 9.6K	
Phase	fixed						fixed
4.8k sel	first half, last half, odd pair, even pair						fixed
Clock	Normal, Inverted, N/A						N/A
Data	Normal, Inverted, N/A						N/A
RTS	Active, Permanent						Permanent
TTM	On, Off, N/A						N/A
DCD	Permanent On, Remote X.50 forward, Remote all one forward						Remote all one forward
Interface	2DB+2RJ						2DB+2RJ

Note: RS232 ASYNC-N table is shown below for user to setup ASYNC 8 to 12.
*Where the N = start bit + data bit + parity bit + stop bit.
Start bit is always 1. Data bit is 6, 7 or 8. Parity bit is NONE=0, ODD or EVEN=1. Stop bit is 1 or 2.

	Start	**Data**	**Parity**	**Stop**
ASYNC-8	1	6	0 (NONE)	1
ASYNC-9	1	7	0 (NONE)	1
ASYNC-10	1	8	0 (NONE)	1
ASYNC-11	1	8	1 (ODD/EVEN)	1
ASYNC-12	1	8	1 (ODD/EVEN)	2

Example: ASYNC-"10" = (1+8+0+1) = Start bit 1, Data bit 8, Parity bit 0, Stop bit 1.

3.1.1 X.50 MUX

The 8RS232 card is designed to allow user to transport subrate signals on a 64Kbps channel. This card uses the multiplexing scheme and format defined in ITU-T X.50 Division 2 and X.54. If MUX mode is selected, ports #1 to #5 are multiplexed together and ports #6 to #8 are another group. If any one of the ports are selected to be independent i.e. only one subrate signal is transported, the unused bandwidth is filled with “1s”.

Note: Independent mode is NO_MUX.

3.1.2 SYNC mode

The user can set the RS232 port to synchronous or asynchronous mode of operation. Async mode can select from 8 to 12 bits including the start and stop bit.

3.1.3 Rate

The RS232 card can operate at 0.6K, 1.2K, 2.4K, 4.8K and 9.6K.

3.1.4 Phase

The phase defines what bytes of the 20-byte multi-frame are used to transport the subrate signal. In Loop design, this is fixed and the only bytes 1, 6, 11 and 16 are used.

3.1.5 4.8k sel

For subrate less than 9.6Kbps, only selected bytes of the 20 bytes multi-frame is used. In this design, bytes 1 and 6 are used.

3.1.6 Clock

This is the clock polarity. The clock polarity of the DTE port is either normal or inverted and is used to drive the transmit data and to sample the receive data.

3.1.7 Data

This is the Data polarity. Data polarity of the DTE port is either normal or inverted which is used as positive logic or negative logic.

3.1.8 RTS

The DTE facility can use RTS (Request To Send) to control transmission. When RTS is "ACTIVE" and in an OFF state, all ones are sent to the T1 line side on the DTE port associated with the DS0 time slots. When RTS is "PERMANENT," the RTS signal is ignored and forced ON permanently.

3.1.9 TTM

In a normal operating mode, the CSU/DSU uses the transmit clock (from CSU/DSU) to sample the transmit data sent from the DTE. In the Terminal Timing Mode (TTM) the CSU/DSU uses the external clock from the DTE to sample the transmit data. This avoids data reception problems due to phase delay caused by long cables. If the DTE cable is too long, the transmit data, after traversing the cable, may not be in-phase with the transmit clock. By using this feature the transmit data will be in phase with the sampling clock, which in this case will be the external clock from the DTE.

Note that the "external clock" from the DTE can also be used as the CSU/DSU system clock. This choice is independent of the TTM option. See the section on Master Clock for the details.

3.1.10 DCD

DCD, also called Data Carrier Detect, is a signal present inside an RS232 serial communications cable that goes between a computer and another device. There are three different types of status for Loop’s DCD function: “Permanent On”, “Remote X.50 forward”, and “Remote all one forward”. “Permanent On” is to carry and detect all data and signal during RS232 communication. “Remote X.50 forward” is to select signals only from 8RS232 on the remote site. “Remote all one forward” is to select data from the back panel of the remote module.

3.1.11 Connector Type

The DTE port interface type can only be 8RJ. The interface type can be read from the terminal.

3.2 LED Operation

Each plug-in has a rear panel LED, which match the corresponding front panel LED.

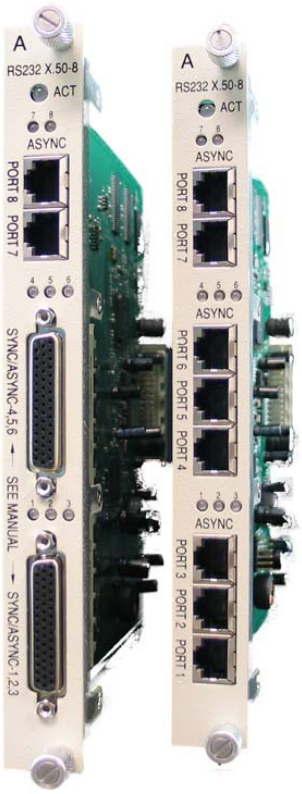


Table 3-3 LED indication of 8 ports RS232 Card

LED	Color	Indication
Act	Off	Card failure
	Flash Green	Card Initialization is in processing
	Green	Normal operation
	Red	Self-test failure
RS232 Port 1 to Port 8	Flashing Green: 0.1 sec on, 0.1 sec off	Both transmit data and receive data present
	Flashing Green: 0.4 sec on, 0.4 sec off	Either transmit data or receive data present
	Flashing Green: 1.6 sec on, 1.6 sec off	Loopback test
	Green	No transmit data and receive data present
	Red	Alarm of RTS lost or external clock lost

3.3 RS232 Port Loopbacks

There are two types of RS232 loopback: TO-DTE and TO-LINE. These loopback tests are used to isolate RS232 equipment connected to the RS232 port from other ports. In TO-DTE loopback, an incoming data signal received at the RS232 port is looped back to the same RS232 port. All ones are sent to the Line port on the DTE-associated DS0 channels.

In TO-LINE loopback, an incoming framed DS0 signal received at the Line port is looped back to the Line port. The RS232 port operations are not affected during this test.

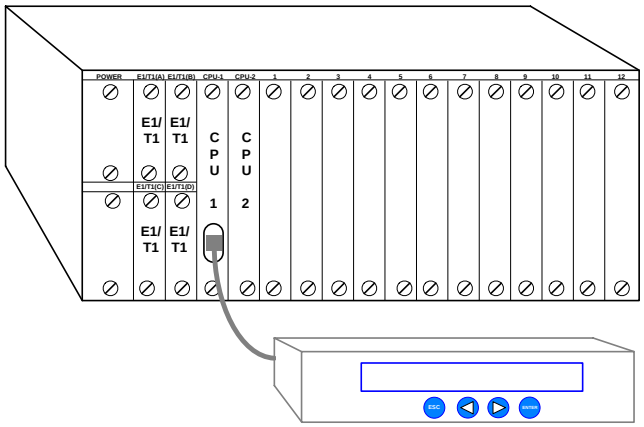
NOTE: RS232 loopback works only when one or more DS0 channels are mapped to the RS232 port.

3.4 Line loopback

The incoming DS1 line signal is loopback to the outgoing DS1 signal before the DS1 transceiver framer. This loopback is used to isolate the local equipment from a troubled DS1 transmission line. Line loopback test can be activated from the terminal.

4 FRONT PANEL OPERATION

There are no front panel operations for the 8RS232 card. A hand-held LCD device will take the place of a front panel. This device will allow configuration of and access to the various features without the need of a VT100 terminal. Besides, the 8RS232 card is initially set up and controlled via a VT100 monitor connected to the Console port of the Loop-AM3440 unit.



Hand-held LCD Device

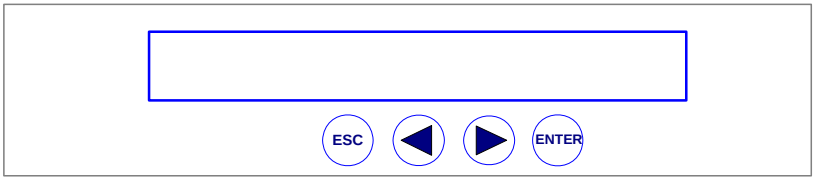


Figure 4-1 Front Panel of the hand-held LCD

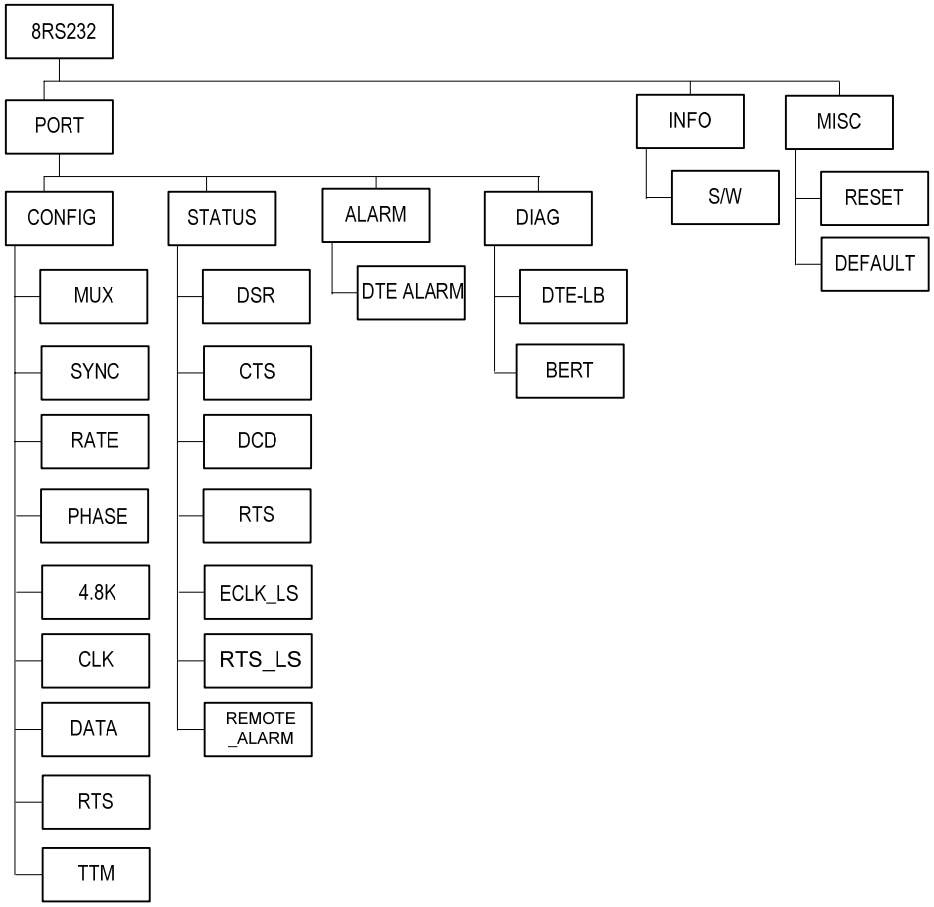


Figure 4-2 LCD Menu Tree

4.1 Main Menu

The main menu, the first menu displayed after power on, is shown below.

```
                LOOP AM3440
<< UNIT  CONTROLLER  TSI-MAP  ALARM  MISC >>
```

4.1.1 Unit Menu

Use arrow keys to move the cursor to the UNIT option.

```
                AM3440
<< UNIT  CONTROLLER  TSI-MAP  ALARM  MISC >>
```

Press ENTER, then move the cursor to select the desired unit.

```
UNIT> Select Unit: <X50-8>
A B C D  2 3 4 5 6 7 8 9 10 11 12
```

4.1.2 8RS232 Port Menu

4.1.2.1 Select Port Number Menu

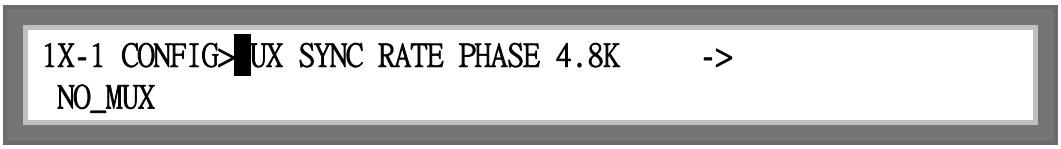
Use left and right arrow keys to select a port for the 8RS232 card.

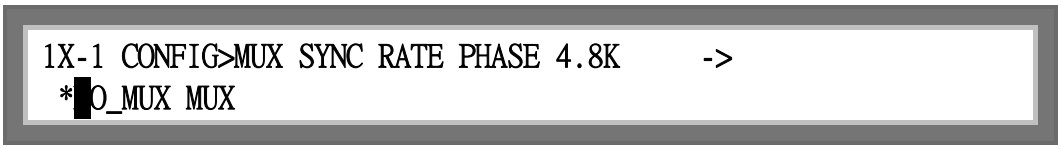
4.1.3 DTE Configuration Menu

DTE Configuration group includes MUX, SYNC, Rate, Phase, 4.8k, Clock, Data, RTS and TTM.

4.1.3.1 MUX Mode Menu

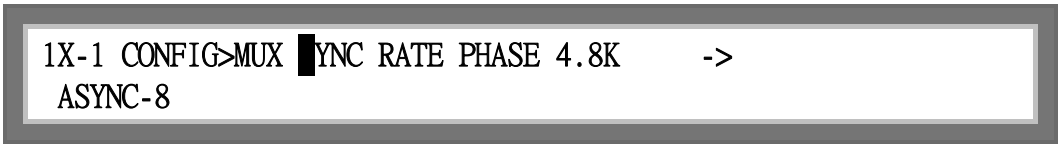
To change the MUX mode, press ENTER into MUX, simply use left or right arrow key cycle through to NO_MUX or MUX and presses ENTER. .

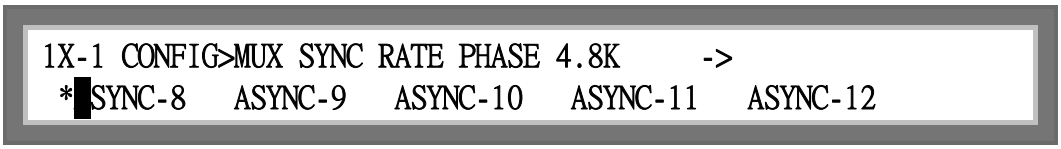




4.1.3.2 SYNC Mode Menu

To change the SYNC mode, press ENTER, simply use left or right arrow key cycle through to ASYNC-8, ASYNC-9, ASYNC-10, ASYNC-11, ASYNC-12, or SYNC and press ENTER.

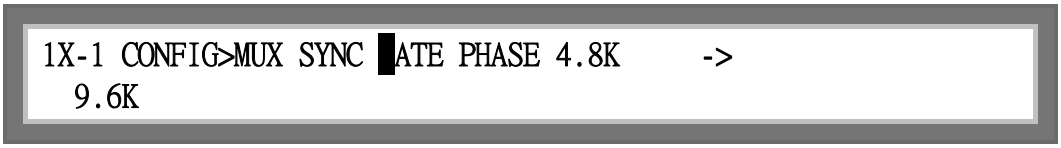


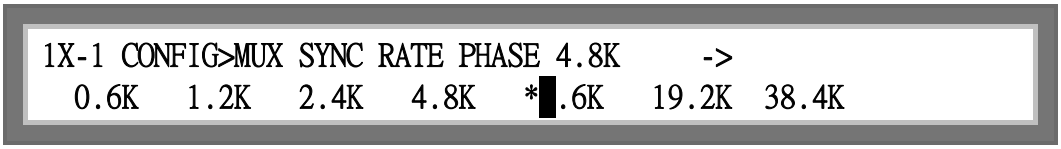


4.1.3.3 RATE Menu

To change the rate, press ENTER, simply use left or right arrow key cycle through to 0.6K, 1.2K, 2.4K, 4.8K, 9.6K, 19.2K or 38.4K and press ENTER.

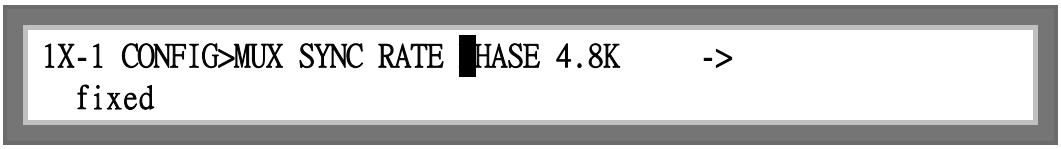
Note: The rate menu show 64K only on SYNC mode is SYNC





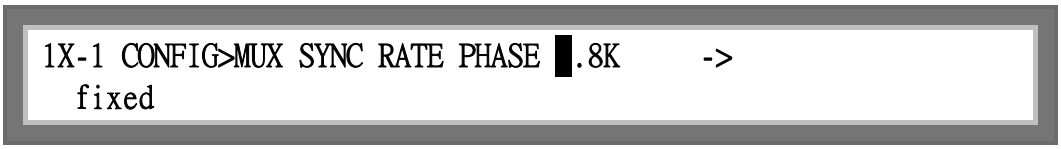
4.1.3.4 Phase Menu

The Phase is fixed.



4.1.3.5 4.8K Menu

4.8K is fixed in 8RS232 card.



4.1.3.6 Clock Menu

Clock is not available in 8RS232 card.

4.1.3.7 Data Menu

Data is not available in 8RS232 card.

4.1.3.8 RTS Menu

To change the RTS, press ENTER, simply use left or right arrow key cycle through to permanent or active and press ENTER.

4.1.4 Status Menu

Press ENTER to DTE Status.

4.1.5 Alarm Menu

Press ENTER to DTE Alarm.

Press ENTER and change the DTE ALARM by using left or right arrow key cycle through to disable, major, critical and minor. Press ENTER to enable the changes.

4.1.6 Diagnostic Menu

Press ENTER to DTE LB. To change the DTE LB, simply use left or right arrow key cycle through to permanent or active and press ENTER to enable the changes.

4.1.7 Bert Menu

Press ENTER to Bert. To change the Bert, simply use left or right arrow key cycle through to off or on and press ENTER to enable the changes.

4.2 Card Information Menu

Card information menu is used to view the software version of 8RS232 card.

Press ENTER to INFO.

4.3 Miscellaneous Menu

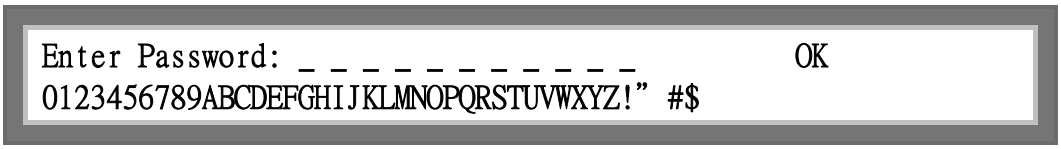
Press ENTER from the port menu, the LCD will show as below. Use left or right arrow keys to select the "MISC" menu, press ENTER.

4.3.1 Reset Menu

Press ENTER from the submenu "Reset" of the "MISC" menu, the LCD will show as below. This menu item allows user to reset the unit. The user must enter a password to effect this operation. The password is entered best from the terminal. From the common controller panel, the password is entered one letter at a time by first selecting position of the password. Press ENTER. Then use the left or right arrow keys to select the letter for the password. Additional characters are available for the password when the cursor is scrolled to the right end.

4.3.2 Default Menu

Press ENTER from the submenu “Default” of the “MISC” menu, the LCD will show as below. This menu item allows user to load the factory default configuration into the working configuration memory. The user must enter a password to effect this operation. The password is entered best from the terminal. From the common controller panel, the password is entered one letter at a time by first selecting position of the password. Press ENTER. Then use the left or right arrow keys to select the letter for the password. Additional characters are available for the password when the cursor is scrolled to the right end.



5 TERMINAL OPERATION

The Loop-AM3440 series provides comprehensive report and enhanced configuration capability through the console port on the front of the main unit. A VT100 type terminal can be connected to the console port, which is a standard RS232 interface. Using single-character commands and arrow keys, the Loop-AM3440 can be configured and monitored. The single-character commands are not case sensitive. On each screen, the available commands and the configurable fields are highlighted. Alarm messages are also sent to the console port and are shown on the top of the screen in a blinking mode. Upon power up, the main menu is shown.

On the upper right corner of the screen, a time-of-day display indicates the time the current screen is shown. Any key, other than **ESC**, may be pressed to update the screen.

NOTE: Without storing the current configuration by using the V-command in the main menu, all new configuration changes will not remain active after the unit is reset.

5.1 Menu Tree

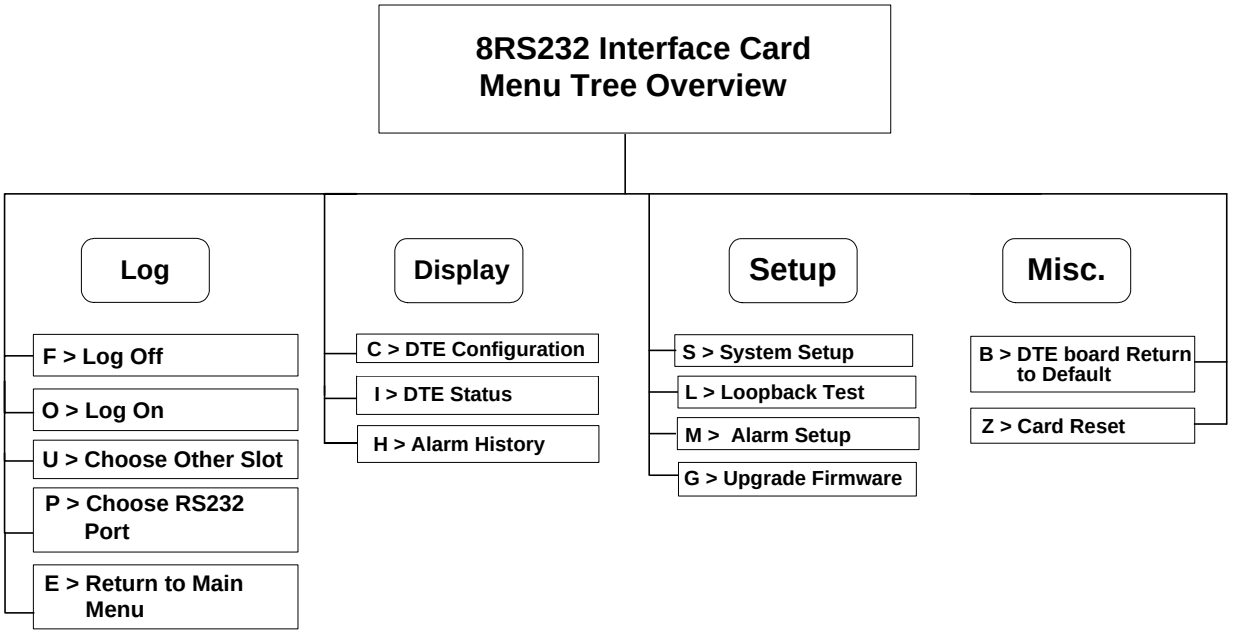


Figure 5-1 8RS232 Interface Card Menu Tree Diagram

The following screen is the Controller Menu screen.

Note: The AM3440 chassis type will appear in the top left-hand corner of the screen.
(See highlighting in the sample screen below.)

```
LOOP AM3440-A              === Controller Menu ===         14:16:50 11/05/2007

Serial Number   : 1014                  Redundant Controller: Enabled
Hardware Version: Ver.F                 Start Time  : 17:56:38 11/01/2007
Software Version: V7.01.01 11/01/2007   Device Name: LOOP AM3440-A



[DISPLAY]                               [SETUP]
C -> System Configuration
B -> Clock source Configuration
Q -> Alarm Queue Summary
I -> Information Summary
R -> Redundant Board Information


[LOG]                                   [MISC]
U -> Choose a Slot
F -> Log Off [SETUP],[MISC] Menu
O -> Log On  [SETUP],[MISC] Menu



>>SPACE bar to refresh or enter a command ===>
```

From the Controller Menu, press “O” to log on. The following screen appears.

```
LOOP AM3440-A              === Controller Menu ===         14:16:50 11/05/2007

Serial Number   : 1014                  Redundant Controller: Enabled
Hardware Version: Ver.F                 Start Time  : 17:56:38 11/01/2007
Software Version: V7.01.01 11/01/2007   Device Name: LOOP AM3440-A



[DISPLAY]                               [SETUP]
C -> System Configuration               S -> System Setup
B -> Clock source Configuration         M -> System Alarm Setup
Q -> Alarm Queue Summary                W -> Firmware Transfer
I -> Information Summary                V -> Store/Retrieve Configuration
R -> Redundant Board Information        K -> Clock source Setup
                                        T -> Bit Error Rate Test

[LOG]                                   [MISC]
U -> Choose a Slot                      A -> Alarm Cut Off
F -> Log Off [SETUP],[MISC] Menu        X -> Clear Alarm Queue
O -> Log On  [SETUP],[MISC] Menu        Y -> Controller Return to Default
                                        Z -> Controller Reset


>>SPACE bar to refresh or enter a command ===>
```

5.2 DTE Port Menu

From Controller Menu screen, click “U” to choose a slot and press Enter to confirm.

```
LOOP AM3440-A              === Controller Menu ===          14:16:50 11/05/2007

Serial Number   : 1014                  Redundant Controller: Enabled
Hardware Version: Ver.F                 Start Time  : 17:56:38 11/01/2007
Software Version: V7.01.01 11/01/2007   Device Name: LOOP AM3440-A



 [DISPLAY]                              [SETUP]
 C -> System Configuration              S -> System Setup
 B -> Clock source Configuration        M -> System Alarm Setup
 Q -> Alarm Queue Summary               W -> Firmware Transfer
 I -> Information Summary               V -> Store/Retrieve Configuration
 R -> Redundant Board Information       K -> Clock source Setup
                                        T -> Bit Error Rate Test

 [LOG]                                  [MISC]
 U -> Choose a Slot                     A -> Alarm Cut Off
 F -> Log Off [SETUP],[MISC] Menu       X -> Clear Alarm Queue
 O -> Log On  [SETUP],[MISC] Menu       Y -> Controller Return to Default
                                        Z -> Controller Reset


 ==>> Input the unit number (A~D or 1~12): 1
```

The following screen appears.

```
SLOT 1 X50 PORT 1             === Port Menu ===            18:22:15 09/05/2007

Version      : SW V1.01.01 08/30/2007




[DISPLAY]                               [SETUP]
C -> DTE Configuration
I -> DTE Status
H -> Alarm History


[LOG]                                   [MISC]
F -> Log Off
O -> Log On
U -> Choose Other Slot
P -> Choose RS232 Port
E -> Return to Main Menu



>>SPACE bar to refresh or enter a command ===>
```

Press “O” to Log On. The following screen appears.

```
SLOT 1 X50 PORT 1              === Port Menu ===            18:22:15 09/05/2007

Version      : SW V1.01.01 08/30/2007




[DISPLAY]                                  [SETUP]
C -> DTE Configuration                     S -> System Setup
I -> DTE Status                            L -> Loopback Test
H -> Alarm History                         M -> Alarm Setup
                                           G -> Upgrade Firmware

[LOG]                                      [MISC]
F -> Log Off
O -> Log On                                B -> DTE board Return to Default
U -> Choose Other Slot                     Z -> Card Reset
P -> Choose RS232 Port
E -> Return to Main Menu



>>SPACE bar to refresh or enter a command ===>
```

5.3 DTE Configuration

Press “C” to view the DTE Configuration.

```
SLOT 1 X50 PORT 1              === Port Menu ===            18:22:15 09/05/2007

Version      : SW V1.01.01 08/30/2007




[DISPLAY]                                  [SETUP]
C -> DTE Configuration                     S -> System Setup
I -> DTE Status                            L -> Loopback Test
H -> Alarm History                         M -> Alarm Setup
                                           G -> Upgrade Firmware

[LOG]                                      [MISC]
F -> Log Off
O -> Log On                                B -> DTE board Return to Default
U -> Choose Other Slot                     Z -> Card Reset
P -> Choose RS232 Port
E -> Return to Main Menu



>>SPACE bar to refresh or enter a command ===>
```

The following screen appears.

8RJ Interface Screen:

```
SLOT 1 X50 PORT 1         === Unit Configuration ===       15:53:36 09/05/2007



[-------- LOCAL --------]
X50 MUX   : NO_MUX
SYNC mode : ASYNC-8
Rate      : 9.6K
Phase     : fixed
4.8k sel  : fixed
Clock     : N/A
Data      : N/A
RTS       : Permanent
TTM       : N/A
Interface : 8RJ




<< ESC key to return to previous menu, SPACE bar to refresh >>
```

2DB+2RJ Interface Screen:

```
SLOT 1 X50 PORT 1         === Unit Configuration ===       13:51:16 12/17/2007



[-------- LOCAL --------]
X50 MUX   : NO_MUX
SYNC mode : ASYNC-8
Rate      : 9.6K
Phase     : fixed
4.8k sel  : fixed
Clock     : N/A
Data      : N/A
RTS       : Permanent
TTM       : N/A
Interface : 2DB+2RJ




<< ESC key to return to previous menu, SPACE bar to refresh >>
```

5.4 DTE Status

To view the DTE Status, press “I”.

```
SLOT 1 X50 PORT 1              === Port Menu ===            18:22:15 09/05/2007

Version      : SW V1.01.01 08/30/2007




[DISPLAY]                                  [SETUP]
C -> DTE Configuration                     S -> System Setup
I -> DTE Status                            L -> Loopback Test
H -> Alarm History                         M -> Alarm Setup
                                           G -> Upgrade Firmware

[LOG]                                      [MISC]
F -> Log Off
O -> Log On                                B -> DTE board Return to Default
U -> Choose Other Slot                     Z -> Card Reset
P -> Choose RS232 Port
E -> Return to Main Menu



>>SPACE bar to refresh or enter a command ===>
```

The following screen appears.

```
SLOT 1 X50 PORT 1              === Unit Status ===          15:55:18 09/05/2007


[------ LOCAL ------]
DTE-E1 existed : NO
RTS LOSS       : NO
EXT_CLK LOSS   : NO
DSR : NO
CTS : NO
DCD : NO
DTR : NO
RTS : NO
Remote Alarm: YES

[Loopback Status]
DTE Loopback   : OFF
BERT           : OFF







<< ESC key to return to previous menu, SPACE bar to refresh >>
```

5.5 Alarm History

To view the alarm history, press “H”.

```
SLOT 1 X50 PORT 1              === Port Menu ===            18:22:15 09/05/2007

Version      : SW V1.01.01 08/30/2007




[DISPLAY]                                  [SETUP]
C -> DTE Configuration                     S -> System Setup
I -> DTE Status                            L -> Loopback Test
H -> Alarm History                         M -> Alarm Setup
                                           G -> Upgrade Firmware

[LOG]                                      [MISC]
F -> Log Off
O -> Log On                                B -> DTE board Return to Default
U -> Choose Other Slot                     Z -> Card Reset
P -> Choose RS232 Port
E -> Return to Main Menu



>>SPACE bar to refresh or enter a command ===>
```

The following screen appears.

```
SLOT 1 X50 PORT 1            === Alarm History ===          15:59:01 09/05/2007


[Port]  [State]  [Count]  [Alarm]
    1      OK          0    DISABLE
    2      OK          0    DISABLE
    3      OK          0    DISABLE
    4      OK          0    DISABLE
    5      OK          0    DISABLE
    6      OK          0    DISABLE
    7      OK          0    DISABLE
    8      OK          0    DISABLE









<< ESC to return to previous menu, SPACE to refresh, U key to change unit >>
```

5.6 System Setup

Press “S” to go to System Setup.

```
SLOT 1 X50 PORT 1              === Port Menu ===            18:22:15 09/05/2007

Version      : SW V1.01.01 08/30/2007




[DISPLAY]                                  [SETUP]
C -> DTE Configuration                     S -> System Setup
I -> DTE Status                            L -> Loopback Test
H -> Alarm History                         M -> Alarm Setup
                                           G -> Upgrade Firmware

[LOG]                                      [MISC]
F -> Log Off
O -> Log On                                B -> DTE board Return to Default
U -> Choose Other Slot                     Z -> Card Reset
P -> Choose RS232 Port
E -> Return to Main Menu



>>SPACE bar to refresh or enter a command ===>
```

The following screen appears.

8RJ Interface Screen:

```
SLOT 1 X50 PORT 1        === Setup Configuration ===       19:22:02 09/05/2007
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS



[-------- LOCAL --------]
X50 MUX   : NO_MUX
SYNC mode : ASYNC-8
Rate      : 9.6K
Phase     : fixed
4.8k sel  : fixed
Clock     : N/A
Data      : N/A
RTS       : Permanent
TTM       : N/A
Interface : 8RJ









<< Press ESC key to return to previous menu or save setup >>
```

Item	Option	Default
SYNC mode	ASYNC-8, ASYNC-9, ASYNC-10, ASYNC-11, ASYNC-12	ASYNC-8
	SYNC (ASYNC with rate up to 19.2 Kbps achieved by oversampling at 64 Kbps)	
Rate	0.6K, 1.2K, 2.4K, 4.8K, 9.6K, 19.2K, 38.4K	9.6K
	64K (ASYNC with rate up to 19.2 Kbps achieved by oversampling at 64 Kbps)	

2DB + 2RJ Interface Screen:

```
SLOT 8 X50 PORT 1             === Setup Configuration ===       15:59:30 07/24/2009
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS



[-------- LOCAL --------]
X50 MUX   : NO_MUX
SYNC mode : ASYNC-8
Rate      : 9.6K
Phase     : fixed
4.8k sel  : fixed
Clock     : N/A
Data      : N/A
RTS       : Permanent
TTM       : N/A
DCD       : Remote all one forward
Interface : 2DB+2RJ




<< Press ESC key to return to previous menu or save setup >>
```

5.7 Loopback Test

To view the Loopback Test,press “L”.

```
SLOT 1 X50 PORT 1              === Port Menu ===            18:22:15 09/05/2007

Version      : SW V1.01.01 08/30/2007




[DISPLAY]                                  [SETUP]
C -> DTE Configuration                     S -> System Setup
I -> DTE Status                            L -> Loopback Test
H -> Alarm History                         M -> Alarm Setup
                                           G -> Upgrade Firmware

[LOG]                                      [MISC]
F -> Log Off
O -> Log On                                B -> DTE board Return to Default
U -> Choose Other Slot                     Z -> Card Reset
P -> Choose RS232 Port
E -> Return to Main Menu



>>SPACE bar to refresh or enter a command ===>
```

The following screen appears.

```
SLOT 1 X50 PORT 1       === Unit Loopback and Test ===     19:30:24 09/05/2007
ARROW KEYS: CURSOR MOVE; ENTER KEY: ITEM SELECT; TAB,'`': NEXT/PREV UNIT

8X50 Port 1

[TEST MENU]
RS232 Loopback                         : *OFF  TO-DTE  TO-DS1
Send BERT                              : *OFF  ON









<< Press ESC key to return to previous menu >>
```

5.8 Alarm Setup

To setup the Alarm for the DTE interface, press “M”.

```
SLOT 1 X50 PORT 1              === Port Menu ===            18:22:15 09/05/2007

Version      : SW V1.01.01 08/30/2007




[DISPLAY]                                  [SETUP]
C -> DTE Configuration                     S -> System Setup
I -> DTE Status                            L -> Loopback Test
H -> Alarm History                         M -> Alarm Setup
                                           G -> Upgrade Firmware

[LOG]                                      [MISC]
F -> Log Off
O -> Log On                                B -> DTE board Return to Default
U -> Choose Other Slot                     Z -> Card Reset
P -> Choose RS232 Port
E -> Return to Main Menu



>>SPACE bar to refresh or enter a command ===>
```

The following screen appears.

```
SLOT 1 X50 PORT 1            === Alarm Setup ===          19:38:16 09/05/2007
ARROW KEYS: CURSOR MOVE, TAB: ROLL OPTIONS


   [Port]     [Alarm]

 Unit  1# 1:  DISABLE
 Unit  1# 2:  DISABLE
 Unit  1# 3:  DISABLE
 Unit  1# 4:  DISABLE
 Unit  1# 5:  DISABLE
 Unit  1# 6:  DISABLE
 Unit  1# 7:  DISABLE
 Unit  1# 8:  DISABLE









<< Press ESC key to return to previous menu or save setup >>
```

5.9 Upgrade Firmware

Press “G” to Upgrade the Firmware.

```
SLOT 1 X50 PORT 1              === Port Menu ===            18:22:15 09/05/2007

Version      : SW V1.01.01 08/30/2007




[DISPLAY]                                  [SETUP]
C -> DTE Configuration                     S -> System Setup
I -> DTE Status                            L -> Loopback Test
H -> Alarm History                         M -> Alarm Setup
                                           G -> Upgrade Firmware

[LOG]                                      [MISC]
F -> Log Off
O -> Log On                                B -> DTE board Return to Default
U -> Choose Other Slot                     Z -> Card Reset
P -> Choose RS232 Port
E -> Return to Main Menu



>>SPACE bar to refresh or enter a command ===>
```

The following screen appears.

```
LOOP AM3440-A              === Download Firmware ===        19:39:29 09/05/2007
ARROW KEYS: CURSOR MOVE, Please Input: nnn.nnn.nnn.nnn, BACKSPACE to edit


Bank 1 Firmware Ver. : V1.01.01 08/29/2007  (Good)
Bank 2 Firmware Ver. : V1.01.01 08/30/2007  (Good)
Working Firmware Bank: 2
TFTP Server IP       : 000.000.000.000
Firmware File Name   :









<< Press ESC key to return to previous menu >>
```

5.10 DTE board Return to Default

Press “B” to return to default. The following screen appears. Press “Y” to confirm.

```
SLOT 1 X50 PORT 1              === Port Menu ===            11:40:33 09/07/2007

Version      : SW V1.01.01 08/30/2007




[DISPLAY]                                  [SETUP]
C -> DTE Configuration                     S -> System Setup
I -> DTE Status                            L -> Loopback Test
H -> Alarm History                         M -> Alarm Setup
                                           G -> Upgrade Firmware

[LOG]                                      [MISC]
F -> Log Off
O -> Log On                                B -> DTE board Return to Default
U -> Choose Other Slot                     Z -> Card Reset
P -> Choose RS232 Port
E -> Return to Main Menu



>> Return to default - are you sure ? [Y/N]
```

5.11 Card Reset

Press “Z” to reset the card, then enter “Y” or “N” to confirm it.

```
SLOT 1 X50 PORT 1              === Port Menu ===            13:10:26 09/07/2007

Version      : SW V1.01.01 08/30/2007




[DISPLAY]                                  [SETUP]
C -> DTE Configuration                     S -> System Setup
I -> DTE Status                            L -> Loopback Test
H -> Alarm History                         M -> Alarm Setup
                                           G -> Upgrade Firmware

[LOG]                                      [MISC]
F -> Log Off
O -> Log On                                B -> DTE board Return to Default
U -> Choose Other Slot                     Z -> Card Reset
P -> Choose RS232 Port
E -> Return to Main Menu



Reset - are you sure ? [Y/N]
```